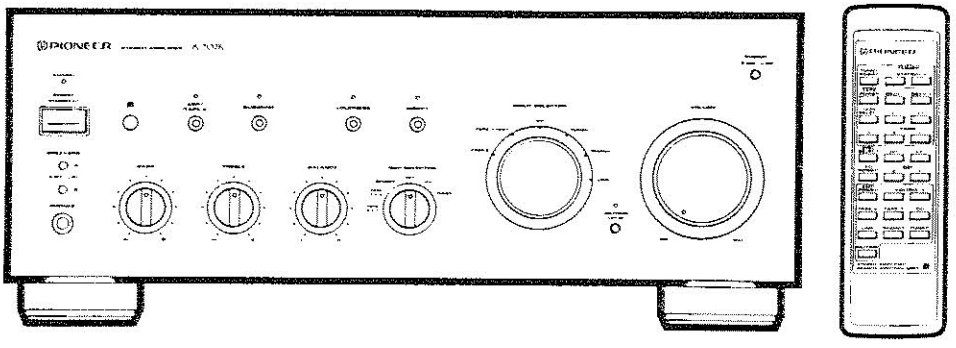
Operating Instructions

STEREO AMPLIFIER

A-702R
A-602R



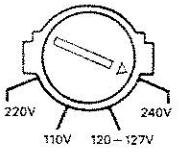
Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

TWO VOLTAGE SELECTOR SWITCHES

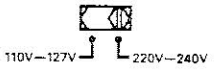
Only multi-voltage models are provided with these switches. U.S. Canadian models are not provided with these switches. Main voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check that they are set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selectors and adjust so that the tip of the arrow points to the voltage value of your area.



Set the voltage selector switch to the voltage in your area.



WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

PIONEER®
The Art of Entertainment

Information to User
Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

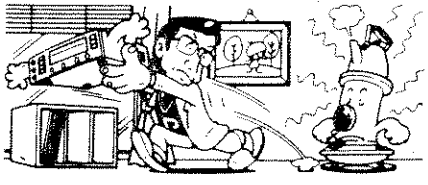
—Consult the dealer or an experienced radio/TV technician for help.

INSTALLATION

LOCATION

Install the amplifier in a well-ventilated location where it will not be exposed to high temperature or humidity.

Do not install the amplifier in a location which is exposed to direct sunlight, or near hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the amplifier in a damp or dusty environment may result in malfunction or accident. (Also avoid installation near cookers etc., where the amplifier may be exposed to smoke from oil, steam or heat.)



CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

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FEATURES

- Remote Controlled High Sound Quality Amplifier
  Motor-driven rotary mechanical switches are used for function selection to provide better sound reproduction, compared to semiconductor switches.

- Wide-Range Linear Circuit
  This new current feedback circuit assures improved operating stability for flat output impedance and stable driving of speakers across the full range of frequencies.

- High-Current Drive Circuit
  This circuit boosts audio signal current for improved suppression of noise, while a special 2-stage volume circuit improves S/N ratio during actual operation.

- Chamber Construction
  The AC power supply and audio circuits are separated by a metal screen in order to reduce the effect of mains-borne noise and transformer flux leakage. The metal screen also suppresses resonances and vibrations in the unit.

- "AERO" Heat Sink
  The highly rigid, curved fins help suppress resonance to assure clear reproduction.

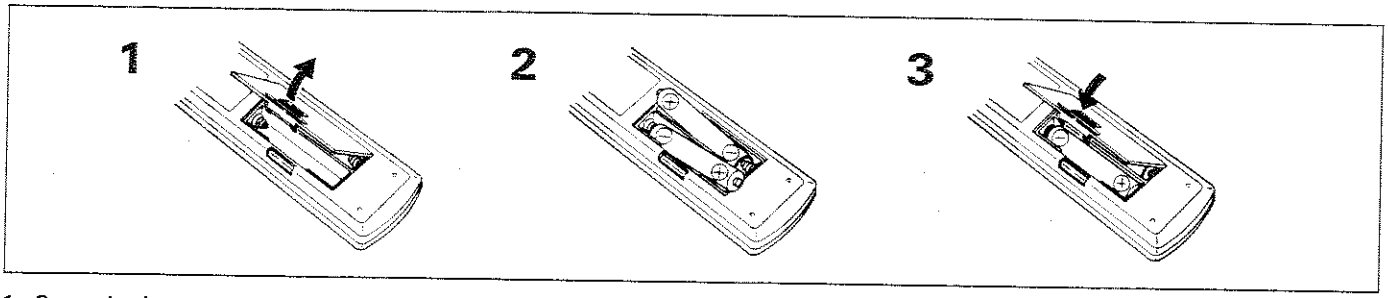
- High Channel Separation Design
  The high-current drive circuit and channel separation enhancer circuit assure exceptionally wide range channel separation.

- Motor-driven rotary mechanism for input selection.

- Uses a complementary capacitor pair.

- The use of a DIRECT circuit ensures high fidelity playback of consistent frequency characteristics, with maximum clarity.

PUT BATTERIES INTO THE REMOTE CONTROL UNIT



1. **Open the battery compartment cover on the back of the remote control unit.**
2. **Insert size "AAA" (IEC R03) dry cell batteries into the battery compartment in accordance with the indications (⊕, ⊖) inside the compartment.**
3. **Close the cover of the battery case.**

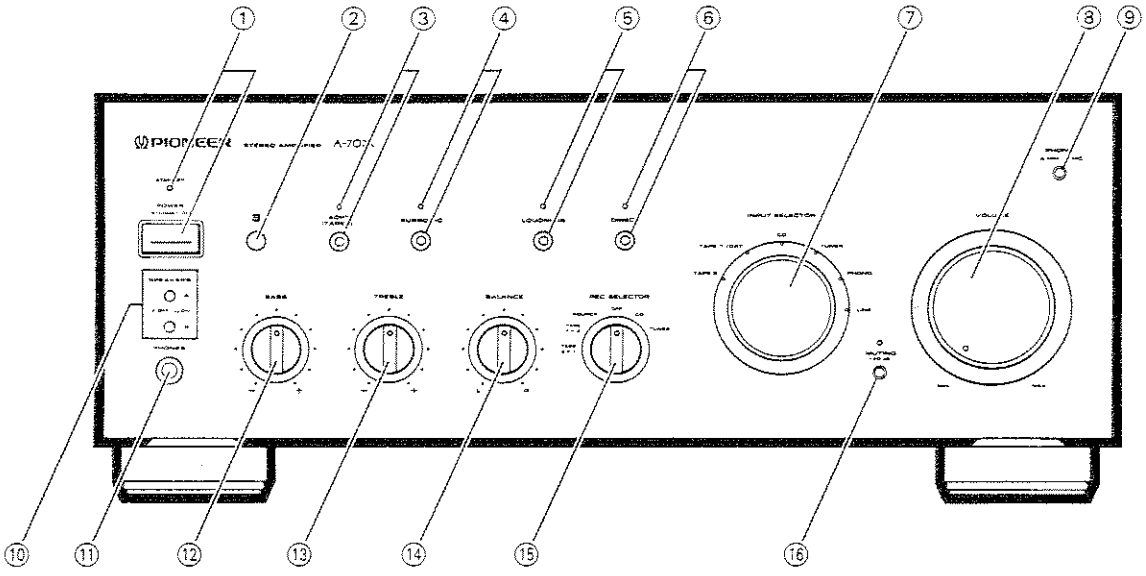
Incorrect use of batteries may lead to leakage or rupture.
Always be sure to follow these guidelines:

A. Always insert batteries into the battery compartment correctly matching the positive ⊕ and negative ⊖ polarities, as shown by the display inside the compartment.
B. Never mix new and used batteries.
C. Batteries of the same size may have different voltages, depending on brand. Do not mix different brands of batteries.

PANEL FACILITIES

[FRONT PANEL]

The illustration shows model A-702R.



① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When the STANDBY indicator lights, the unit is in STANDBY.

NOTE:

When performing timer recording with this unit, be sure to set the POWER STANDBY/ON switch to ON.

② Remote sensor window

③ ADPT (adaptor)/TAPE 3 button/indicator

Use this button to listen to tape playback, or to monitor a tape recording.

On: (Red illumination)

The indicator lights: Press when listening to the playback sound of the cassette deck or the adaptor connected to the ADPT/TAPE 3 IN/PLAY jacks, or to monitor the sound being recorded on the cassette deck connected to the ADPT/TAPE 3 OUT/REC jacks.

Off:

The indicator goes off: Normally leave the button in this position.

NOTE:

When the DIRECT button is set to on, this function does not operate and no signal is output at the ADPT/TAPE 3 OUT/REC jacks.
When the DIRECT button is in the off position, only the source signal is output from the ADPT/TAPE 3 OUT/REC jack.

④ SUBSONIC filter button/indicator

Use this button when playing records with coarse grooves.

On: (Red illumination)

The indicator lights: In this position, frequencies of 17 Hz and below are cut, eliminating super-low frequency noise caused by coarse record grooves and thus helping prevent sound distortion.

Off:

The indicator goes off: Leave in this position for normal playback.

NOTE:

This button does not operate when DIRECT button is in the on position. This button operates when PHONO is selected by the INPUT SELECTOR switch (refer to ⑨ on page 5).

⑤ LOUDNESS button/indicator

Use when listening at low volume levels.

On: (Red illumination)

The indicator lights: Boosts low and high frequencies to give added punch to playback at low volume.

Off:

The indicator goes off: Should normally be left in this position.

NOTES:

- *This button does not operate when the DIRECT button is in the on position.*
- *At volume levels below the 10 o'clock position, the LOUDNESS effect is obtained.*
- *At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.*

⑥ DIRECT button/indicator

Use this button when you wish to bypass the various frequency adjusting circuits and adaptor jacks (ADPT/TAPE 3, SUBSONIC, BASS, TREBLE, BALANCE, LOUDNESS).

On: (Orange illumination)

When this button is in this position, the indicator lights and the signals input from the input jacks are reproduced without passing through the various frequency-adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

Off:

When the button is in this position the indicator goes out and the signal passes through the various frequency adjusting circuits.

NOTE:

The settings for ③ — ⑥ and ⑨ when the power was last turned off are memorized and recalled when power is turned on, regardless of whether the AC cord was plugged in or not.
When the DIRECT button is in the on position, the SUBSONIC filter is off.

⑦ INPUT SELECTOR switch

Use to select playback source. The selected source's indicator lights. Even if you switch the power off, the last selected source is memorized.

LINE:
Set to this position when listening to the programs from a component connected to the LINE jacks.

PHONO:
When selected, the indicator flashes for 8 seconds.
Set to this position when listening to record playback on a turntable.

TUNER:
Set to this position when listening to AM or FM broadcasts with a tuner.

CD:
Set to this position when listening to a compact disc playback with a CD player.

TAPE 1/DAT:
For playback with a cassette deck or digital audio tape deck connected to the TAPE 1/DAT jacks.

TAPE 2:
For playback with a cassette deck connected to the TAPE 2 jacks.

⑧ VOLUME control

Use to adjust volume level.

NOTE:
This unit is equipped with a circuit that attenuates the effect of tone and loudness controls as volume is turned up.

⑨ PHONO selector button

Set in accordance with the type of cartridge used in your turntable.

MM (▀) Released position:
Set to this position when using a moving magnet cartridge, or a MC (moving coil) cartridge with high output of 1 mV or more.

MC (▄) Depressed position:
Set to this position when using a moving coil cartridge.

⑩ SPEAKERS selector buttons

Use these buttons to listen to the speaker systems connected to SPEAKERS terminals.

OFF (▀) Released position:
No sound is heard from the speaker systems. Set to this position when listening with headphones.

A (▄) Depressed position:
For reproduction of sound with the speaker system connected to the SPEAKERS A terminals.

B (▄) Depressed position:
For reproduction of sound with the speaker system connected to the SPEAKERS B terminals.

⑪ PHONES jack

When using headphones, insert the plug into this jack. (When you want to listen with headphones only, refer to ⑩.)

⑫ BASS tone control

Use to adjust the low-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

NOTES:
- *This function does not operate when the DIRECT button is in the on position.*
- *At volume levels below the 10 o'clock position, the set tone control effect is obtained.*
- *At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.*

⑬ TREBLE tone control

Use to adjust the high-frequency tone at low volume level. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTES:
- *This function does not operate when the DIRECT button is in the on position.*
- *At volume levels below the 10 o'clock position, the set tone control effect is obtained.*
- *At volume levels above the 10 o'clock position, the effect becomes increasingly weaker.*

⑭ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L (left) position and if the left side is louder, turn toward the R (right) position.

NOTE:
This function does not operate when the DIRECT button is in the on position.

⑮ REC SELECTOR switch

Switch to select recording signal. When set at other positions than SOURCE or OFF, signals can be recorded during playback of the equipment selected by INPUT SELECTOR switch.

TUNER:
To record from a TUNER.

CD:
To record from a CD player.

OFF:
In this position nothing from the REC jacks of TAPE 1/DAT and TAPE 2 will be output. Select it when not recording; output to cassette decks will be disconnected, improving sound quality.

SOURCE:
To record the equipment selected by INPUT SELECTOR switch.

TAPE:
1 ► 2:
To record (copy) from the cassette deck of TAPE 1/DAT jacks, over to the cassette deck of TAPE 2 jacks.
2 ► 1:
To record (copy) from the cassette deck of TAPE 2 jacks, over to the cassette deck of TAPE 1/DAT jacks.

NOTE:
The REC SELECTOR switch has no effect on the recording output of the ADPT/TAPE 3 jacks.

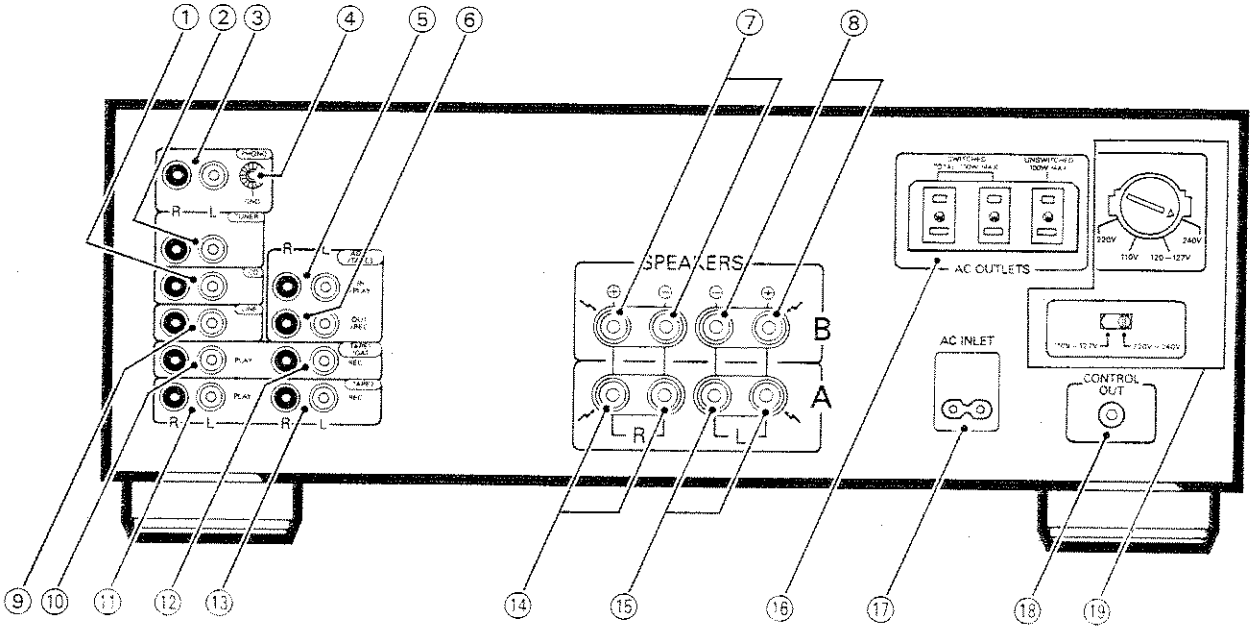
⑯ MUTING button/indicator

Use to temporarily cut sound volume.

On: (Red illumination)
The indicator lights. The sound volume will be reduced −20 dB.

Off:
The indicator goes off. The sound will return to its previous volume.

[REAR PANEL]



① CD jacks

② TUNER jacks

③ PHONO jacks

④ Turntable ground terminal (GND)

⑤ ADPT/TAPE 3 IN/PLAY jacks

⑥ ADPT/TAPE 3 OUT/REC jacks

⑦ SPEAKERS B terminals (right channel)
(See page 9.)

⑧ SPEAKERS B terminals (left channel)
(See page 9.)

⑦ SPEAKERS B terminals (right channel)

⑧ SPEAKERS B terminals (left channel)

⑨ LINE jacks

⑩ TAPE 1/DAT PLAY jacks

⑪ TAPE 2 PLAY jacks

⑫ TAPE 1/DAT REC jacks

⑬ TAPE 2 REC jacks

⑭ SPEAKERS A terminals (right channel)
(See page 9.)

⑮ SPEAKERS A terminals (left channel)
(See page 9.)

⑯ AC OUTLETS
(See page 9.)

⑰ AC INLET jack
Connect power cord to here and an AC wall socket, or the AC outlet of an audio timer.
If you are going to be away from home for a long period of time, disconnect the unit from the wall socket.

⑱ CONTROL OUT jack
(See page 9.)

⑲ VOLTAGE SELECTORS
(See page 1.)

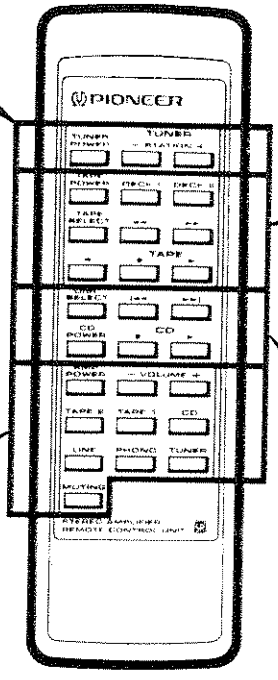
[REMOTE CONTROL UNIT]

TUNER

TUNER POWER : Switches TUNER power ON/OFF.
STATION −, + : Calls stations one at a time.

AMPLIFIER

AMP POWER : Switches the amplifier power ON/STANDBY.
VOLUME + : Increases the volume.
VOLUME − : Decreases the volume.
MUTING : Press to reduce the sound −20 dB, and press again to return to the original volume level.
(INPUT SELECTOR buttons)
(Refer to ⑦ on page 5.)
TAPE 2 : TAPE 2
TAPE 1 : TAPE 1/DAT
CD : CD
LINE : LINE
PHONO : PHONO
TUNER : TUNER



TAPE (Cassette deck)

TAPE POWER : Switches TAPE power ON/OFF.
DECK I : To operate Deck I, press this button before pressing the operating buttons.
DECK II : To operate Deck II, press this button before pressing the operating buttons. Use Deck II during single deck operation.
TAPE SELECT : Selects the cassette No. (1 to 6) for multi-cassette changer.
(Operation buttons)
◄◄, ►► : Tape fast forward/reverse.
◄, ► : Playback in the direction of the arrow.
■ : Stop

CD (CD player)

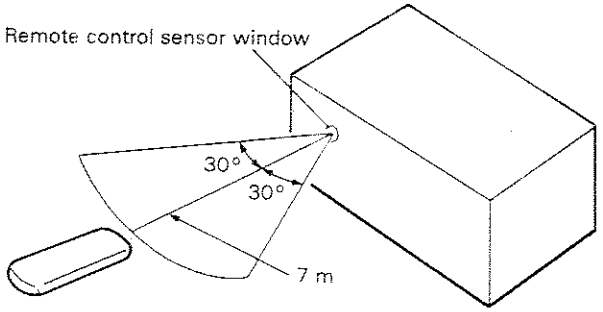
DISC SELECT : Press this to select discs on a multi-play compact disc player.
|◄◄ : Takes you to the start of the track playing. (Track search)
►►| : Takes you to the start of the next track. (Track search)
CD POWER : Switches CD player power ON/OFF.
■ : Stop
► : Play

NOTE:
When the accessory remote control unit is used to operate other Pioneer components with the ⓡⓒ mark, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

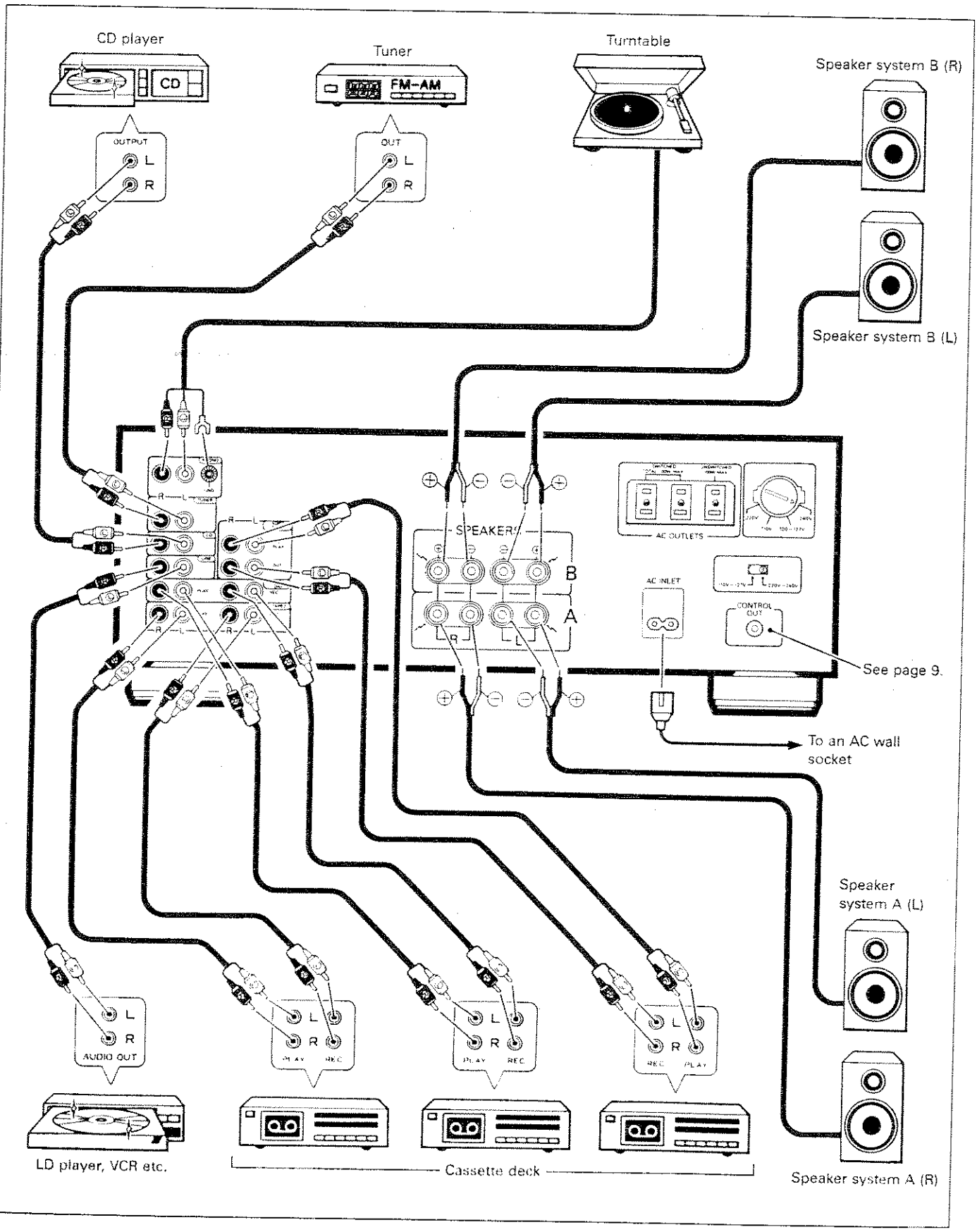
RANGE OF REMOTE CONTROL

When the remote control unit is pointed at the remote sensor window on the stereo amplifier and any of its keys is pressed, the unit and other components can be operated by remote control.
Distance: Within a range of about 7 meters from the unit's remote control sensor window.
Angle: Within approx. 30 degrees from the center of the unit's remote control sensor window.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the unit's remote control sensor window.

- The accessory remote control unit can be used to control some functions of other Pioneer cassette decks, CD players and tuners (only those Pioneer components bearing the ⓡⓒ mark).



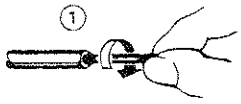
CONNECTIONS



Make all connections before plugging in AC cords.

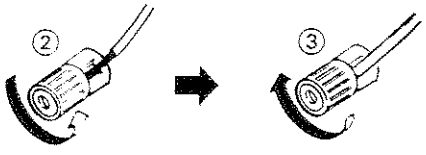
CONNECTING THE SPEAKER CORDS

1. **Strip off the vinyl covering and twist the tip of the wire core.**



Twist the wire core.

2. **Loosen the knob and insert the wire core into the terminal hole.**
3. **Tighten the knob to fix the wire core in place.**



NOTE:
Do not allow the wire core to protrude and touch other terminals or wires. If the cores of different wires touch, damage may be caused to your components.

Speaker Impedance

When speaker systems are connected to only one of the SPEAKERS A or B terminals, such speakers should have rated impedance in the range of 4—16 Ω.
When speakers are connected to both the A and B terminals, they should have a rated impedance in the range of 8—32 Ω.

AC OUTLETS (SWITCHED TOTAL 100 W MAX)

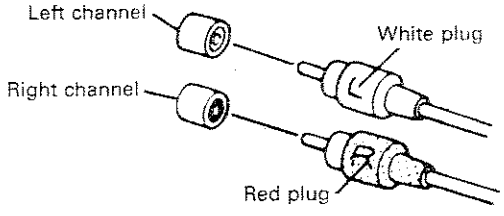
Power supplied through these outlets is turned on and off by the amplifier's POWER STANDBY/ON switch. Total electrical power consumption of connected equipment should not exceed 100 W.

AC OUTLET (UNSWITCHED 100 W MAX)

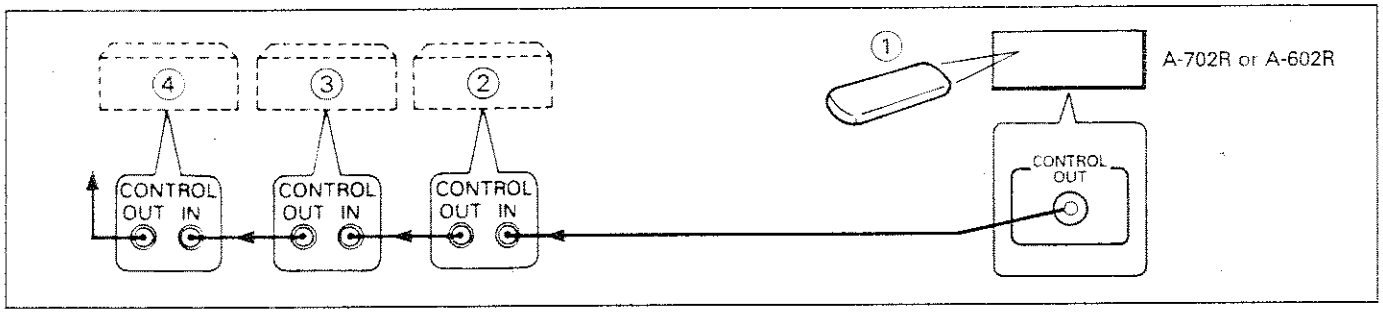
Power flows continually to this outlet, regardless of whether the amplifier is switched ON or STANDBY. Electrical power consumption of the connected equipment should not exceed 100 W.
The equipment should be disconnected by removing the power plug from the wall socket when not in regular use, e.g., when on vacation.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS in order to avoid overheating or fire risk.

CONNECTING INPUT/OUTPUT CORDS



Connect the white plug to the L (left) channel, and the red plug to the R (right) channel. Be sure to push the plugs securely.



REMOTE CONTROL CORD CONNECTIONS

By interconnecting the CONTROL jacks of Pioneer units with the mark, the entire system can be operated with this remote control unit, although some of the units (FM/AM tuner, CD player, cassette deck, etc.) may not be equipped with remote sensors. The entire system can be operated by a remote control unit connecting PIONEER stereo components to each other using the control input (CONTROL IN) jack on each component. Use the remote control cord supplied with the respective unit for the connection. An example is shown in the figure. As long as you connect "OUT" to "IN", the connecting sequence is arbitrary. In case of a unit which has only an "IN" connector, connect it last.

① Remote control unit
② Cassette deck
③ CD player
④ FM/AM tuner

BEFORE BEGINNING OPERATIONS

Set the controls and switches as follows: See page 4.

1. **Set the VOLUME control ⑧ to minimum.**
2. **Set the POWER STANDBY/ON switch ① to ON.**
3. **Press the SPEAKERS selector button ⑩ corresponding to the speaker system to be used.**
4. **Set the BALANCE control ⑭ to the center position.**
5. **Set the DIRECT button ⑥ to off.**
6. **Set the ADPT/TAPE 3 button ③ to off.**

PLAYBACK PROCEDURES

1. Set the INPUT SELECTOR ⑦ or ADPT/TAPE 3 ③ button.

How to select playback source;

- When listening to programs from equipment connected to the LINE jacks: Set to [LINE].
- When listening to a record: Set to [PHONO].
  Set PHONO selector button ⑨ to MM (▮) or MC (▬) according to the type of cartridge being used.

NOTE: (A-702R only)

When switching to the PHONO function from another function, the PHONO indicator flashes for about 8 seconds, during which time there is no sound (This is also the case during remote control operation).

- When listening to an AM/FM broadcast: Set to [TUNER].
- When listening to a compact disc: Set to [CD].
- When listening to a tape: Set to [TAPE 1/DAT], [TAPE 2] or [ADPT/TAPE 3].

2. Operate the playback equipment.

3. Adjust playback volume with the VOLUME control ⑧ on this unit.

RECORDING TAPES

When using the cassette deck connected to the ADPT/TAPE 3 jacks for recording.

The source selected with the INPUT SELECTOR ⑦ switch will be recorded, regardless of the REC SELECTOR position.
However, recording will not be possible when the DIRECT button is on.

1. Select the recording source with REC SELECTOR switch ⑬.

- When set to the SOURCE position, the signals from the device selected by INPUT SELECTOR switch ⑦ are recorded. (To record signals from a device connected to the PHONO or LINE jacks, set the REC SELECTOR switch ⑬ to SOURCE and set the INPUT SELECTOR switch to PHONO or LINE).
- Recording is impossible when the switch is set to OFF.

NOTE:

When this switch is set at other than SOURCE and OFF position, the equipment selected by REC SELECTOR switch ⑬ can be recorded, regardless of the setting of INPUT SELECTOR ⑦ or DIRECT ⑥ buttons.

2. Begin recording by operating the source equipment and cassette deck.

Refer to the operating instructions for your cassette deck for proper operating procedures.

Monitoring while recording

When recording from the tuner or CD only.
On a 3-head cassette deck, sound can be concurrently heard while recording. This operation of checking the sound quality and recording level is called "monitoring." When monitoring, set the INPUT SELECTOR switch ⑦ of this equipment in the following way, to match the cassette deck on which recording is being done.

- When recording on the cassette deck of TAPE 1/DAT jacks:
  Set to TAPE 1/DAT.
- When recording on the cassette deck of TAPE 2 jacks:
  Set to TAPE 2.
- When recording on the cassette deck of ADPT/TAPE 3 jacks:
  Set ADPT/TAPE 3 button to on.
- When recording from PHONO or LINE source, recording monitor is possible.

NOTE:

When using ADPT/TAPE 3 jacks, set the DIRECT button to off.

COPYING TAPES

When two decks are used, you can record the sounds from one deck onto the other.

Application examples:

- To make a tape copy with contents identical to the original tape.
- To edit a recording of a radio broadcast in order to cut out unwanted commercials, recording only desired material onto another tape.

1. Load tapes for playback (pre-recorded tape) and recording into the respective cassette decks.

2. Select the cassette deck to be copied with REC SELECTOR switch ⑮.

- When copying from the cassette deck of TAPE 1/DAT jacks to the cassette deck of TAPE 2 jacks: Set to 1 ► 2.
- When copying from the cassette deck of TAPE 2 jacks to the cassette deck of TAPE 1/DAT jacks: Set to 2 ► 1.

NOTE:

The tape selected with REC SELECTOR switch ⑮ can be copied, regardless of the settings of INPUT SELECTOR ⑦ and DIRECT ⑥ buttons.

3. Operate the cassette decks to begin copying.

Set the cassette deck with the blank tape to the recording mode, and set the cassette deck with the original (playback) tape to the playback mode.

PLAYBACK USING A GRAPHIC EQUALIZER

The sound of all sources can be finely adjusted with a graphic equalizer connected to ADPT/TAPE 3 jacks.
However, the graphic equalizer is bypassed when DIRECT button ⑥ is on.

NOTE:

Be sure to perform this operation with the adaptor component power switch in the on position. Even when not using the adaptor component, its power switch must be left on. If the adaptor component is switched off, no sound will be produced, or the playback sound will be distorted.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No power supplied to unit.	• Power plug is disconnected from outlet. • The component power plug has been plugged into another component power outlet (e.g. timer, etc.) but power to that unit is disconnected. • POWER STANDBY/ON switch is set to STANDBY.	• Insert plug securely into outlet. • Turn on power to the other component. • Press the POWER STANDBY/ON switch to ON.
No sound.	• Connecting cords are disconnected from jacks, or connected incorrectly. • Jacks, or connecting cords pin plugs are dirty. • The INPUT SELECTOR switch selected do not match the component being played back. • Operation of other components is incorrect. • The SPEAKERS selector button is set to OFF (■).	• Connect securely. • Clean jacks and plugs. • Set INPUT SELECTOR switch correctly (PHONO, TUNER, CD, LINE, TAPE 1/DAT, TAPE 2). • Consult the operating instructions for the other components. • Set one button or both button to ON (▬).
Cannot adjust sound volume. (Low sound level only)	• MUTING button is on (indicator lit).	• Turn off the MUTING button (indicator off).
No sound when DIRECT button is set to off.	• ADPT/TAPE 3 button is in the on position.	• Set ADPT/TAPE 3 button to the off position.
No sound from one speaker.	• Connecting cords or speaker cords are disconnected on that side. • BALANCE control has been adjusted to one side.	• Connect securely. • Adjust BALANCE control to center position.
Cannot record tapes.	• The position of REC SELECTOR switch is incorrect. • Connections are incorrect. • Operation of cassette deck is incorrect.	• Set switch correctly (See section "RECORDING TAPES"). • Reconnect properly. • Consult the operating instructions for the cassette deck.
Cannot perform tape copying.	• The position of REC SELECTOR switch is incorrect. • Operation of cassette decks is incorrect.	• Set switch correctly (see section "COPYING TAPES"). • Consult the operating instructions for the cassette decks.
The remote control unit does not work. (Other components cannot be operated.)	• There are no batteries in the remote control unit. • The remote control sensor is not receiving any signals. • The battery compartment cover is not perfectly closed. • The remote control cord is not connected. • A fluorescent light is shinning on the remote sensor window.	• Load the remote control unit with batteries (see page 3). • Operate the remote control unit within the range of 7 meters an angle of 30 degrees (refer to page 7). • Check that the battery compartment cover is closed correctly. • Connect correctly (see page 9). • Move so fluorescent light does not shine directly on amplifier front panel remote sensor window.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

[A-702R]

Continuous power output (both channels driven at 20 Hz to 20 kHz)**
T.H.D. 0.03 %, 4 Ω ..... 130 W + 130 W*
T.H.D. 0.015 %, 8 Ω ..... 85 W + 85 W*
DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 4 Ω ..... 140 W + 140 W
T.H.D. 1.0 %, 8 Ω ..... 90 W + 90 W
Power bandwidth
0.05 %, 8 Ω ..... 5 Hz — 80 kHz*
Damping factor
(1 kHz/20 Hz to 20 kHz), 8 Ω 160/140
Dynamic power output (on EIA dynamic test signal)
4 Ω/2 Ω ..... 200 W/300 W
Total harmonic distortion**
20 Hz to 20 kHz
(continuous power output/−3 dB), 8 Ω ..... 0.007 %*
Inter-modulation distortion (at rated output) ..... 0.015 %*
• *Above specifications are for when power supply is 230 V.*

[A-602R]

Continuous power output (both channels driven at 20 Hz to 20 kHz)**
T.H.D. 0.03 %, 4 Ω ..... 100 W + 100 W*
T.H.D. 0.015 %, 8 Ω ..... 70 W + 70 W*
DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 4 Ω ..... 120 W + 120 W
T.H.D. 1.0 %, 8 Ω ..... 80 W + 80 W
Power bandwidth
0.05 %, 8 Ω ..... 5 Hz — 80 kHz*
Damping factor
(1 kHz/20 Hz to 20 kHz), 8 Ω 160/140
Dynamic power output (on EIA dynamic test signal)
4 Ω/2 Ω ..... 150 W/200 W
Total harmonic distortion**
20 Hz to 20 kHz
(continuous power output/−3 dB), 8 Ω ..... 0.009 %*
Inter-modulation distortion (at rated output) ..... 0.015 %*
• *Above specifications are for when power supply is 230 V.*

Input sensitivity/impedance
PHONO (MM) ..... 2.8 mV/50 kΩ
PHONO (MC) ..... 0.24 mV/100 Ω
CD, TUNER, LINE, TAPE ..... 200 mV/50 kΩ
PHONO overload level
1 kHz, T.H.D. 0.1 % (MM/MC) ..... 200 mV/19 mV
Output level/impedance
TAPE REC, ADAPTOR OUTPUT ..... 200 mV/1 kΩ
Frequency response
PHONO (MM) ..... 20 Hz to 20 kHz ±0.2 dB
PHONO (MC) ..... 20 Hz to 20 kHz ±0.3 dB
CD, TUNER, LINE, TAPE ..... 1 Hz to 150 kHz $^{+0}_{-3}$ dB*
Tone control (volume control set at −30 dB position)
BASS ..... ±8 dB (100 Hz)
TREBLE ..... ±8 dB (10 kHz)
Loudness contour (volume control set at −30 dB position)
..... +5 dB (100 Hz)/+3 dB (10 kHz)
Filter (SUBSONIC) ..... 17 Hz (12 dB/oct.)
Muting ..... −20 dB
Signal-to-Noise ratio (IHF short circuit, A network)
PHONO (MM, 5 mV input/MC, 0.5 mV input) ..... 90 dB/76 dB*
CD, TUNER, LINE, TAPE ..... 110 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)
PHONO (MM) ..... 74 dB/72 dB*
CD, TUNER, LINE, TAPE ..... 95 dB/81 dB*

Power Supply/Miscellaneous

Power Requirements ..... AC 110 V/120 — 127 V/220 V/240 V (switchable), 50/60 Hz
Power Consumption
A-702R ..... 720 W
A-602R ..... 650 W
AC outlets
Switched (x 2) ..... 100 W
Unswitched (x 1) ..... 100 W
Dimensions ..... 420 (W) x 432 (D) x 161 (H) mm
Weight (without package)
A-702R ..... 14.0 kg
A-602R ..... 12.4 kg

Accessories

Operating instructions 1
Remote control unit 1
Batteries (IEC R03, AAA) 2
Power cord 1

NOTE:
Specifications and design are subject to possible modification without notice, due to improvements.

* When the DIRECT button is set to ON.
** Measured by Audio Spectrum Analyzer.

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